

discarded. Fortunately some drawings had been made which preserved characters easy of interpretation in the light of subsequent discoveries.

NOTES ON THE GENUS LYCOPODIUM

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Lycopodium Chamaecyparissus.—Through the courtesy of Mr. D. K. Gilbert, the writer has received specimens of this plant collected at Alder Creek, Oneida Co., N. Y., at which place it grows "plentifully in woods." This establishes the fact of the plant's distribution in this State, from which it was not hitherto reported. "The specimens were gathered in early October, and you will see that the strobiles are old and brown. Those of *L. complanatum* gathered at the same time and place were still yellowish green and show that their time of ripening is much later than that of *L. Chamaecyparissus*," writes Mr. Gilbert. This discrepancy in the time of ripening, first noted by Austin in New Jersey, is an important physiological character distinguishing the two species. Another observed difference is in the position of the rhizome, which in *L. Chamaecyparissus* is underground and in *L. complanatum* prostrate on the surface. Notes by field workers on this point should be made during the coming season.

L. pinnatum.—In August of the past year Professor S. M. Tracy and the writer were collecting in the vicinity of Biloxi, Miss., and a locality was found where this plant grows in abundance, and in perfect form. The horizontal stems are quite prostrate and thin and the leaves are confined to one plane very closely. The habitat is a very wet white or yellowish clay bank with full insolation. In the same spot *L. Carolinianum* was found growing to a good size (18 cm.). There can be no doubt of the distinct specific value of this plant. When it grows in sphagnum bogs, as was found to be the case near Auburn, Ala., a little later in the same season, the plant becomes so spindling and distorted as the result of its struggles in growing through the moss, that it becomes very difficult to recognize it.

L. alopecuroides.—This species also was found in savannahs near Biloxi. In the South the variation of the plant is quite small in amount. The arching of the stem, its thickness (4–5 mm.) and the leaf positions separate it very readily from *L. pinnatum*. Recently we advanced the notion that the presence or absence of reflexion of the sporophylls when ripe would serve to distinguish the two plants, but our observations in the South do not strengthen that view. The plants were, however, not ripe, and further observation is necessary.

L. adpressum.—The validity of this species is still open to some doubt. We found during July last, in bogs near Toms River, N. J., many plants which show the same perplexing variation recently referred to by Clute in the Fern Bulletin (9 : 8. 1901). No plant of the species was found in the South. As the plants of Toms River were by no means mature we hesitate to submit an opinion on them further than to say that forms from New Jersey, hitherto regarded as *L. alopecuroides* and *L. adpressum* are apparently the ends of a series of many intergradations. One point we think settled, namely, that the denticulations of the leaves are of no constant specific value in distinguishing species of this segregate. It is, however, worth while to point out that the plants of the *inundatum* group, from that species to *L. alopecuroides*, including the so-called *adpressum*, are to be regarded as a series of forms in a plastic condition. They seem also to be very susceptible to small changes or differences in the environment. It becomes necessary, therefore, to study them very carefully in the field, and full series of specimens should be collected with differences in habitat carefully noted. One way in which some useful work might be done by those who are in favorable conditions would be to exchange growing plants, say of *L. inundatum* and *L. alopecuroides* and to determine by cultivation in different environmental conditions whether they vary toward each other. It is also of great interest to note that the segregate has in the Old World, so far as known, only one representative, *L. inundatum*.